



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/056,029	04/30/1993	JOSEPH S. BOYCE	FM-112J	1593

7590 05/03/2006

IANDIORIO & DINGMAN
260 BEAR HILL ROAD
WALTHAM, MA 02154

EXAMINER

YOUNG, MICAH PAUL

ART UNIT	PAPER NUMBER
----------	--------------

1618

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 08/056,029	Applicant(s) BOYCE ET AL.	
	Examiner Micah-Paul Young	Art Unit 1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6,7,9-20,22,24 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,7,9-20,22,24 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgement of Papers Received: Response dated 2/09/06.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-4,6,7,9-16,18-20,22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined disclosures of Scollard (USPN 4,861,643 hereafter '643) and Boyce et al (USPN 4,808,461 hereafter '461). The claims are drawn to a method of joining composite parts comprising disposing an adherent between the two parts and passing a reinforcing element through the composite parts.

4. The '643 patent discloses a method for joining composite airplane parts where the parts are reinforced and filled with an adherent and further cured (abstract). As seen in the figures, graphite composite parts 10 and 12 are joined by a void filler 29, which overflows into the space between the parts 28. Pressure is applied via shapers 26 and 27 and the two composite parts are held in position while the construct is cured. Reinforcing rivets 33 are drilled through rivet holes 22 to add addition support (col. 3, lin. 53 – col. 5, lin. 13); they are anchored in place after the curing process. The void filler is coated with brazing metals such as nickel or copper (col. 3, lin.

Art Unit: 1618

25 – 34). The reference however differs from some of the claims. The '643 patent does not disclose the composite parts as prepreg parts, or the reinforcing elements as fibers.

5. The '461 patent discloses a method for reinforcing composite prepreg airline parts. As seen in figure 8, the reinforcing fiber elements 14', which run through the length of each composite part 56 to 60 and 58 to 60. However no adherent is added to the space between parts 56 and 58 when they are joined to part 60. Yet, a skilled artisan might be motivated to include an adherent as seen in '643 to fill in possible voids between the composite parts. The void filler, as seen in '643 would act as an adherent with the reinforcing fibers forced through the length of the prepreg parts in the Z axis direction. Since '461 applies heat and pressure to force the reinforcing elements through the composite parts, it would be within the level of skill in the art to continue the procedure for adhering two parts together as shown in figure 8.

6. The combination of art differs in the order of the reinforcing steps. However it has been held that the selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results. The Office does not have the facilities for examining and comparing applicant's product with the product of the prior art in order to establish that the product of the prior art does not possess the same material structural and functional characteristics of the claimed product. In the absence of evidence to the contrary, the burden is upon the applicant to prove that the claimed products are functionally different than those taught by the prior art and to establish patentable differences. *See Ex parte Phillips*, 28 U.S.P.Q.2d 1302, 1303 (PTO Bd. Pat. App. & Int. 1993), *Ex parte Gray*, 10 USPQ2d 1922, 1923 (PTO Bd. Pat. App. & Int.) and *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977). The combination of prior art provides a cured reinforced composite where the parts are reinforced with

Art Unit: 1618

interstitially disposed elements, and a metallic brazing material is disposed between the composite parts. Burden is shifted to applicant to provide a patentable distinction between the instant claims and the combination of the art.

7. With these things in mind one of ordinary skill in the art would have been motivated to combine the teachings and suggestions in order to provide improved z-directional reinforcement to composite parts. It would have been obvious to one of ordinary skill in the art to combine these teachings and suggestions with an expected result of a reinforced composite part useful in various structural capacities.

Response to Arguments

8. Applicant's arguments filed 2/9/06 have been fully considered but they are not persuasive. Applicant argues that:

9. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the intrinsically placed reinforcing elements) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

10. Applicant argues that the Scollard reference does not disclose or suggest a composite reinforcing agent. However, it is the position of the Examiner that the graphite composites held together with void filler and several rivets meets the limitations of the claim. The claims recite a method of joining two composite parts using an adhesive (the void filler) and reinforcing elements. The rivets of the Scollard reference act as the reinforcing elements. The rivets go through composite parts and secure them in place. The Scollard reference establishes the

Art Unit: 1618

knowledge in the art of combining composite parts comprising reinforcing elements and adhesives. The Boyce reference provides the specific type of composite and the specific reinforcing fibers, although the concept and process is well established by Scollard. Applicant is invited to provide evidence of a patentable distinction between the methods of reinforcing composite elements. Until such time that evidence can be provide the claims will remain obviated.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Micah-Paul Young whose telephone number is 571-272-0608. The examiner can normally be reached on M-F 7:00-4:30 every other Monday off.

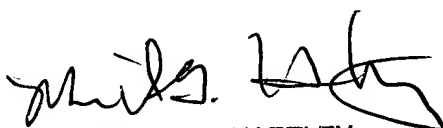
Art Unit: 1618

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Hartley can be reached on 571-272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


MP Young

Micah-Paul Young
Examiner
Art Unit 1618


MICHAEL G. HARTLEY
SUPERVISORY PATENT EXAMINER